

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claims 1-3 (Canceled).

Claim 4 (Currently Amended): The propylene homopolymer according to claim [[3]] 31, satisfying the following relationship:

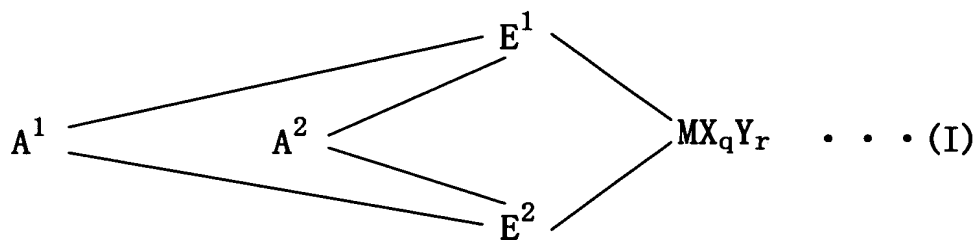
$$(mm) \times (rr)/(mr)^2 \leq 2.0$$

wherein (mm) is a meso triad fraction; (rr) is a racemic triad fraction; and (mr) is a triad fraction.

Claims 5-7 (Canceled):

Claim 8 (Currently Amended): The propylene homopolymer according to claim [[3]] 31 produced by polymerizing propylene in the presence of a polymerization catalyst containing:

(A) a transition metal compound represented by the general formula (I):



wherein M is a metal element of Groups 3 to 10 of the Period Table or lanthanoid series;

E¹ and E² are respectively a ligand selected from the group consisting of substituted cyclopentadienyl, indenyl, substituted indenyl, heterocyclopentadienyl,

substituted heterocyclopentadienyl, amide, phosphide, a hydrocarbon group and a silicon-containing group, which form a cross-linked structure via A¹ and A² and may be the same or different;

X is a ligand capable of forming a σ -bond or π -bond with the proviso that when a plurality of X groups are present, these groups may be the same or different, and may be cross-linked with the other X group, E¹, E² or Y;

Y is a Lewis base with the proviso that when a plurality of Y groups are present, these groups may be same or different, and may be cross-linked with the other Y group, E¹, E² or X;

A¹ and A² are divalent cross-linking groups capable of bonding the two ligands E¹ and E² to each other, are respectively a C₁-C₂₀ hydrocarbon group, a C₁-C₂₀ halogen-containing hydrocarbon group, a silicon-containing group, a germanium-containing group, a tin-containing group, -O-, -CO-, -S-, -SO₂-, -Se-, -NR¹-, -PR¹-, -P(O)R¹-, -BR¹- or -AlR¹- wherein R¹ is a hydrogen atom, a halogen atom, a C₁-C₂₀ hydrocarbon group or a C₁-C₂₀ halogen-containing hydrocarbon group, and may be the same or different;

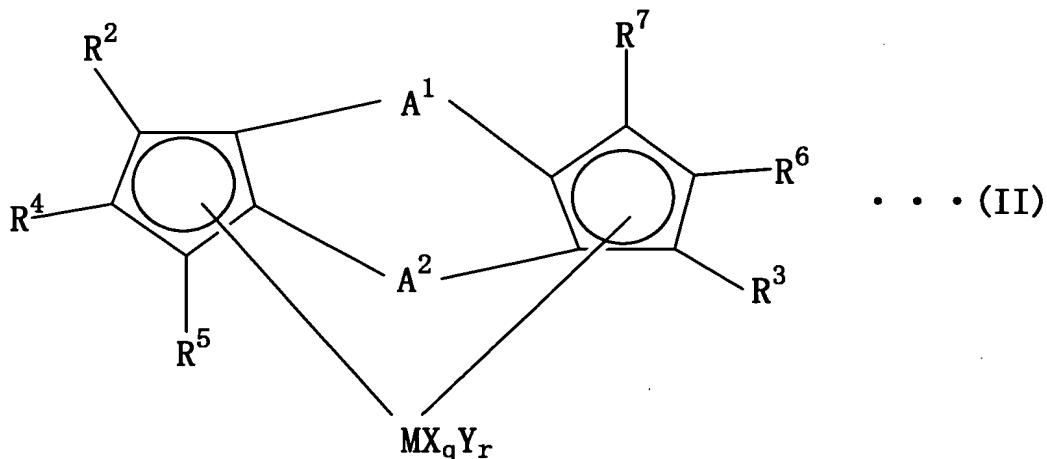
q is an integer of 1 to 5 given by the formula:

{(valence of M) - 2}; and

r is an integer of 0 to 3, and

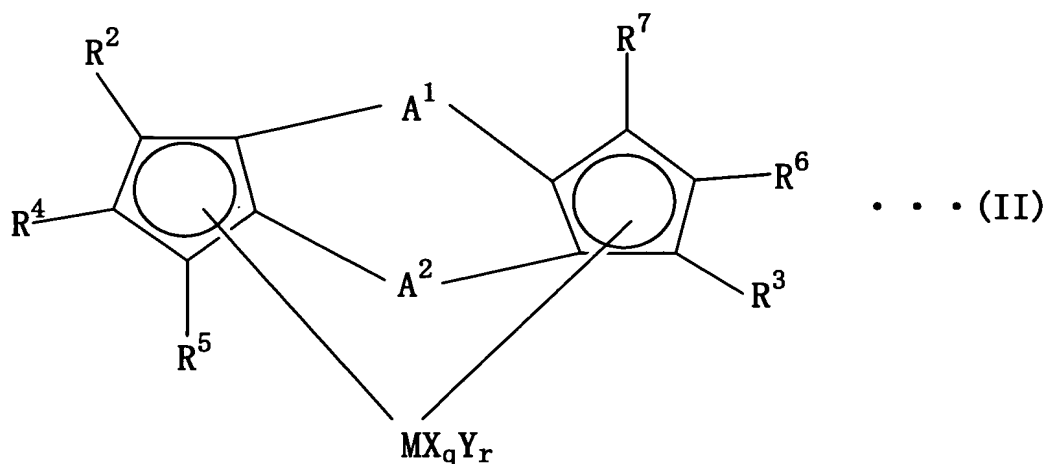
(B) a component selected from the group consisting of (B-1) a compound capable of forming an ionic complex by reacting with the transition metal compound (A) or a derivative thereof, (B-2) aluminoxane, and (B-3) a Lewis acid.

Claim 9 (Original): The propylene homopolymer according to claim 8, wherein the transition metal compound represented by the general formula (I) is a transition metal compound represented by the general formula (II):



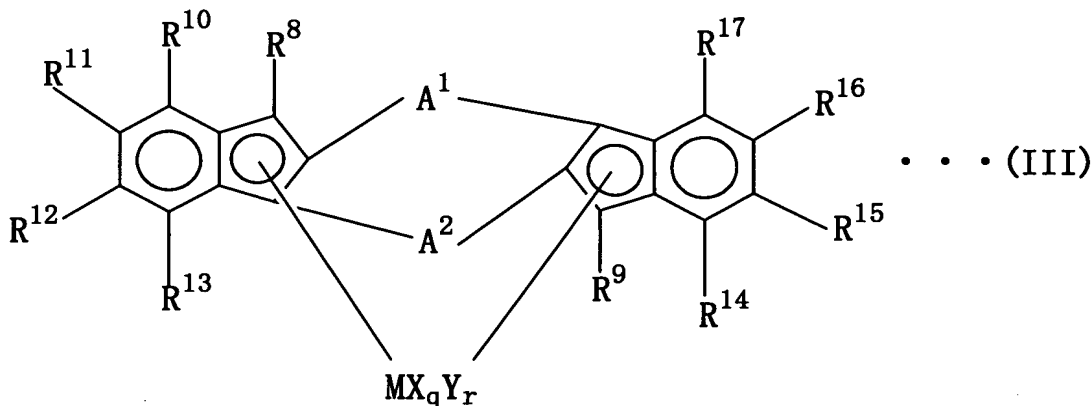
wherein, M, X, Y, A¹, A², q and r are the same as defined in the above general formula (I); R² through R⁷ are respectively a hydrogen atom, a halogen atom, a C₁-C₂₀ hydrocarbon group, a C₁-C₂₀ halogen-containing hydrocarbon group, a silicon-containing group or a heteroatom-containing group with the proviso that at least one of R² through R⁷ is not a hydrogen atom; and R² through R⁷ may be the same or different, and adjacent groups of R² through R⁷ may be bonded to each other to form a ring.

Claim 10 (Original): The propylene homopolymer according to claim 8, wherein the transition metal compound represented by the general formula (I) is a transition metal compound represented by the general formula (II):



wherein, M, X, Y, A¹, A², q and r are the same as defined in the above general formula (I); R² through R⁷ are respectively a hydrogen atom, a halogen atom, a C₁-C₂₀ hydrocarbon group, a C₁-C₂₀ halogen-containing hydrocarbon group, a silicon-containing group or a heteroatom-containing group with the proviso that at least one of R² through R⁷ is a group containing a heteroatom such as oxygen, halogen or silicon; and R² through R⁷ may be the same or different, and adjacent groups of R² through R⁷ may be bonded to each other to form a ring.

Claim 11 (Original): The propylene homopolymer according to claim 9, wherein the transition metal compound represented by the general formula (II) is a transition metal compound represented by the general formula (III):



wherein, M, X, Y, A¹, A², q and r are the same as defined in the above general formula (I); at least one of R⁸ and R⁹ represents a group containing a heteroatom such as oxygen, halogen or silicon; and R¹⁰ through R¹⁷ are respectively a hydrogen atom, a C₁-C₂₀ hydrocarbon group, or a group containing a heteroatom such as oxygen, halogen and silicon.

Claims 12-16 (Canceled):

Claim 17 (Currently Amended): A propylene resin composition comprising the propylene homopolymer according to claim [[3]] 31 and a nucleating agent.

Claims 18-20 (Canceled):

Claim 21 (Currently Amended): A molded product produced by molding the propylene homopolymer according to claim [[3]] 31.

Claim 22 (Original): A molded product produced by molding the propylene resin composition according to claim 17.

Claims 23-25 (Canceled):

Claim 26 (Currently Amended): A propylene resin modifier comprising the propylene homopolymer according to claim [[3]] 31.

Claims 27-30 (Canceled):

Claim 31 (Currently Amended): A propylene homopolymer having satisfying:

(1) a 25°C hexane soluble content (H25) of 0-80 wt%;

(2) neither a melting temperature (T_m) nor a melting endotherm (ΔH)

measurable by differential scanning calorimetry (DSC);

(3) a mesopentad fraction (mmmm) of 30-60 mol%;

(4) a racemic pentad fraction (rrrr) satisfying the following relationship:

$\{rrrr/(1-mmmm)\} \leq 0.1;$

(5) a fraction (W25) eluted at a temperature up to 25°C by temperature
programmed chromatography, of from 20-100 wt%;

(6) a pentad fraction (rmmr) of more than 2.5 mol%; and

(7) an intrinsic viscosity (η) of from 0.5-15.0 dl/g as measured at 135°C in
tetralin.

BASIS FOR THE AMENDMENT

Claims 1, 3, 5, 6, 7, 12-15, 18, 23, 24, 27 and 28-30 have been canceled.

Limitations of Claims 3 and 5 have been included in Claim 31.

No new matter is believed to have been added by entry of this amendment.

Entry and favorable reconsideration are respectfully requested.

Upon entry of this amendment Claims 4, 8-11, 17, 21, 22, 26, and 31 will now be active in this application.